

Unity Developing Your First Game With Unity And C

Game Development with UnityMuska/Lipman

Provides information on using the Unity game engine to build games for any platform, including the Web, the Wii, and on smartphones.

This hands-on guide to Unity is for new and existing Unity users who want to get the most out of the Unity engine, create scripts using C#, delve into graphics, sound, and animations and manipulate physics to create interesting mechanics for games. You'll be able to practically apply the knowledge you've gained to a real-world game.

The biggest challenge facing many game programmers is completing their game. Most game projects fizzle out, overwhelmed by the complexity of their own code. Game Programming Patterns tackles that exact problem. Based on years of experience in shipped AAA titles, this book collects proven patterns to untangle and optimize your game, organized as independent recipes so you can pick just the patterns you need. You will learn how to write a robust game loop, how to organize your entities using components, and take advantage of the CPUs cache to improve your performance. You'll dive deep into how scripting engines encode behavior, how quadrees and other spatial partitions optimize your engine, and how other classic design patterns can be used in games.

This book follows an informal, demystifying approach to the world of game development with the Unity game engine. With no prior knowledge of game development or 3D required, you will learn from scratch, taking each concept at a time working up to a full 3D mini-game. You'll learn scripting with C# or JavaScript and master the Unity development environment with easy-to-follow stepwise tasks. If you're a designer or animator who wishes to take their first steps into game development or prototyping, or if you've simply spent many hours sitting in front of video games, with ideas bubbling away in the back of your mind, Unity and this book should be your starting point. No prior knowledge of game production is required, inviting you to simply bring with you a passion for making great games.

Newly Edited and Updated Version (Fourth Edition) for Unity 2019. Get started with Unity and game programming fast without the headaches

Unity is a great software to create video games; however, it includes so many options and features that getting started can feel

overwhelming. Without my book, most people spend too long trying to learn how to use Unity the hard way. This book is the only one that will

get you to learn Unity fast without wasting so much time. This book is the first book in the series "Unity from Zero to Proficiency" where you

will learn to code fast and be able to create your own video games with Unity in no time. What you will learn - After completing this book, you

will be able to: - Know and master the features that you need to create 2D and 3D environments for your games. - Quickly create (and

navigate through) realistic 3D indoors and outdoors environments. - Create a 3D Maze with lights, walls, and textures. - Use ProBuilder to

create a house. - Create an island with trees, sandy beaches, mountains, and water. - Include and control a car and a plane. - Create a 2D

platform game (with no scripting needed). - Export your games to the web. Who this book is for This book is for: - Hobbyists who need a book

that gets them started with Unity and game development easily. - Parents looking for a book that introduces their children to game

programming painlessly. - Teachers looking for a complete and clear resource on programming through the creation of games. - Aspiring

indie game developers. How this book is different This is the only book that you need to get started with Unity fast and to enjoy the journey

without the frustration. This book includes six chapters that painlessly guide you through the necessary skills to master Unity's interface, use

its core features, and create and navigate through realistic 2D and 3D environments. It assumes no prior knowledge on your part and ensures

that you have all the information and explanations that you need every step of the way. What this book offers This book includes all the

features that you need to get started with Unity and game development: Learn without the headaches: This book assumes that you can't be

expected to learn everything at once; this is why you will build all your skills incrementally. In addition, if you are more of a visual learner, you

will gain access to a FREE video training that covers all the topics and features introduced in the book so that you can see how it is done.

Make your dream of creating your own games come true: This book ensures that you stay motivated by giving you the right amount of

information and challenge in each chapter; we all know that it's hard to keep motivated when learning a new skill, so this book always

contextualizes the knowledge with an example (so that you feel it's relevant), and also makes sure that you get to challenge yourself, if you

need to, with optional challenges present at the end of each chapter. Progress and feel confident in your skills: You will have the opportunity

to learn and to use Unity at your own pace and to become comfortable with its interface. This is because every single new concept introduced

will be explained in great detail so that you never feel lost. All the concepts are introduced progressively so that you don't feel overwhelmed.

Create your own games and feel awesome: With this book, you will build your own 2D and 3D environments and you will spend more time

creating than reading, to ensure that you can apply the concepts covered in each section. All chapters include step-by-step instructions with

examples that you can use straight-away. If you want to get started with Unity today, then buy this book now.

The Unity Engine Tutorial for Any Game Creator ¿ Unity is now the world's #1 game engine, thanks to its affordability, continuous

improvements, and amazing global community. With Unity, you can design, code, and author your game once, and then deploy it to multiple

platforms, reaching huge audiences and earning maximum returns. Learning 2D Game Development with Unity® will help you master Unity

and build powerful skills for success in today's game industry. It also includes a bonus rundown of the new GUI tools introduced in Unity's

version 4.6 beta. ¿ With this indispensable guide, you'll gain a solid, practical understanding of the Unity engine as you build a complete, 2D

platform-style game, hands-on. The step-by-step project will get you started fast, whether you're moving to Unity from other engines or are

new to game development. ¿ This tutorial covers the entire development process, from initial concept, plans, and designs to the final steps of

building and deploying your game. It illuminates Unity's newly integrated 2D toolset, covering sprites, 2D physics, game scripts, audio, and

animations. Throughout, it focuses on the simplest and lowest-cost approaches to game development, relying on free software and assets.

Everything you'll need is provided. ¿ Register your book at informit.com/title/9780321957726 to access assets, code listings, and video

tutorials on the companion website. ¿ Learn How To Set up your Unity development environment and navigate its tools Create and import

assets and packages you can add to your game Set up game sprites and create atlas sheets using the new Unity 2D tools Animate sprites

using keyframes, animation controllers, and scripting Build a 2D game world from beginning to end Establish player control Construct

movements that "feel right" Set up player physics and colliders Create and apply classic gameplay systems Implement hazards and tune

difficulty Apply audio and particle effects to the game Create intuitive game menus and interface elements Debug code and provide smooth

error handling Organize game resources and optimize game performance Publish your game to the web for others to see and play ¿

Find out how to use the Unity Game Engine to its fullest for both 3D and 2D game development—from the basics to the hottest new tricks in

virtual reality. With this unique cookbook, you'll get started in two ways: First, you'll learn about the Unity game engine by following very brief

exercises that teach specific features of the software Second, this tutorial-oriented guide provides a collection of snippets that solve common

gameplay problems, like determining if a player has completed a lap in a race Using our cookbook format, we pinpoint the problem, set out

the solution, and discuss how to solve your problem in the best and most straightforward way possible so you can move onto the next step in

the project. Unity Game Development Cookbook is ideal for beginning to intermediate Unity developers. Beginners will get a broad immersion

into the Unity development environment, while intermediate developers will learn how to apply the foundational Unity skills they have to solve

real game development problems.

Beginning 3D Game Development with Unity is perfect for those who would like to come to grips with programming Unity. You may be an

artist who has learned 3D tools such as 3ds Max, Maya, or Cinema 4D, or you may come from 2D tools such as Photoshop and Illustrator.

On the other hand, you may just want to familiarize yourself with programming games and the latest ideas in game production. This book

introduces key game production concepts in an artist-friendly way, and rapidly teaches the basic scripting skills you'll need with Unity. It goes on to show how you, as an independent game artist, can create casual interactive adventure games in the style of Telltale's Tales of Monkey Island, while also giving you a firm foundation in game logic and design. The first part of the book explains the logic involved in game interaction, and soon has you creating game assets through simple examples that you can build upon and gradually expand. In the second part, you'll build the foundations of a point-and-click style first-person adventure game—including reusable state management scripts, load/save functionality, a robust inventory system, and a bonus feature: a dynamically configured maze and mini-map. With the help of the provided 2D and 3D content, you'll learn to evaluate and deal with challenges in bite-sized pieces as the project progresses, gaining valuable problem-solving skills in interactive design. By the end of the book, you will be able to actively use the Unity 3D game engine, having learned the necessary workflows to utilize your own assets. You will also have an assortment of reusable scripts and art assets with which to build future games.

Build fully functional, professional 3D games with realistic environments, sound, dynamic effects, and more!

Get a thorough and practical introduction to Unity development for Android devices with no previous experience with game development needed. In this book, you'll go through every step from downloading and installing Unity and the Android SDK, to creating fully functional games. The bulk of Learn Unity for Android Game Development is a simple project to create a 2D platform game complete with touchscreen controls, physics, enemies, respawning, collectibles and more. The book closes with a brief introduction to creating 3D games, virtual reality games for the Gear VR, and other more advanced applications. It also provides some guidance on publishing and marketing, as well as thinking about game design and mechanics. Resources including sprites and scripts are provided in the code download. What You Will Learn Install Unity with the Android SDK Understand and use scripts, prefabs and Android Studio Design a great game Build a game app Add a bit of polish Deploy for various Android devices Build and deploy for 3D games, virtual reality and more Promote your game and make money Who This Book Is For This book requires no previous experience with programming or game development of any kind. Prior experience with the Android ecosystem recommended.

Learn how to build a complete 3D game using the industry-leading Unity game development engine and Blender, the graphics software that gives life to your ideas About This Book Learn the fundamentals of two powerful tools and put the concepts into practice Find out how to design and build all the core elements required for a great game - from characters to environments, to props— Learn how to integrate Artificial Intelligence (AI) into your game for sophisticated and engaging gameplay Who This Book Is For This book has been created for anyone who wants to learn how to develop their own game using Blender and Unity, both of which are freely available, yet very popular and powerful, tools. Not only will you be able to master the tools, but you will also learn the entire process of creating a game from the ground up. What You Will Learn Design and create a game concept that will determine how your game will look and how it will be played Construct 3D models of your game characters and create animations for them before importing them into the game Build the game environment from scratch by constructing the terrain and props, and eventually put it all together to form a scene Import and integrate game assets created in Blender into Unity—for example, setting up textures, materials, animation states, and prefabs Develop game structures including a game flow, user interface diagram, game logic, and a state machine Make the game characters move around and perform certain actions either through player inputs or fully controlled by artificial intelligence Create particles and visual effects to enhance the overall visual aesthetic Deploy the game for various types of platforms In Detail In the wake of the indie game development scene, game development tools are no longer luxury items costing up to millions of dollars but are now affordable by smaller teams or even individual developers. Among these cutting-edge applications, Blender and Unity stand out from the crowd as a powerful combination that allows small-to-no budget indie developers or hobbyists alike to develop games that they have always dreamt of creating. Starting from the beginning, this book will cover designing the game concept, constructing the gameplay, creating the characters and environment, implementing game logic and basic artificial intelligence, and finally deploying the game for others to play. By sequentially working through the steps in each chapter, you will quickly master the skills required to develop your dream game from scratch. Style and approach A step-by-step approach with tons of screenshots and sample code for readers to follow and learn from. Each topic is explained sequentially and placed in context so that readers can get a better understanding of every step in the process of creating a fully functional game.

Summary Manning's bestselling and highly recommended Unity book has been fully revised! Unity in Action, Second Edition teaches you to write and deploy games with the Unity game development platform. You'll master the Unity toolset from the ground up, adding the skills you need to go from application coder to game developer. Foreword by Jesse Schell, author of The Art of Game Design Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Build your next game without sweating the low-level details. The Unity game development platform handles the heavy lifting, so you can focus on game play, graphics, and user experience. With support for C# programming, a huge ecosystem of production-quality prebuilt assets, and a strong dev community, Unity can get your next great game idea off the drawing board and onto the screen! About the Book Unity in Action, Second Edition teaches you to write and deploy games with Unity. As you explore the many interesting examples, you'll get hands-on practice with Unity's intuitive workflow tools and state-of-the-art rendering engine. This practical guide exposes every aspect of the game dev process, from the initial groundwork to creating custom AI scripts and building easy-to-read UIs. And because you asked for it, this totally revised Second Edition includes a new chapter on building 2D platformers with Unity's expanded 2D toolkit. What's Inside Revised for new best practices, updates, and more! 2D and 3D games Characters that run, jump, and bump into things Connect your games to the internet About the Reader You need to know C# or a similar language. No game development knowledge is assumed. About the Author Joe Hocking is a software engineer and Unity expert specializing in interactive media development. Table of Contents PART 1 - First steps Getting to know Unity Building a demo that puts you in 3D space Adding enemies and projectiles to the 3D game Developing graphics for your game PART 2 - Getting comfortable Building a Memory game using Unity's 2D functionality Creating a basic 2D Platformer Putting a GUI onto a game Creating a third-person 3D game: player movement and animation Adding interactive devices and items within the game PART 3 - Strong finish Connecting your game to the internet Playing audio: sound effects and music Putting the parts together into a complete game Deploying your game to players' devices

Build immersive game experiences using the new Unity 2020 features with this practical guide Key Features Unleash the capabilities of C# scripting for creating immersive UI, graphics, Game AI agents and much more Explore Unity's latest tools, including Universal Render Pipeline, Shader Graph, and VFX graph, to enhance graphics and animation Get started with building augmented reality experience using Unity's AR Foundation Book Description Over the years, the Unity game engine has extended its scope from just being about creating video games to building AR/VR experiences, complex simulations, real-time realistic rendering, films, and serious games for training and education. Its features for implementing gameplay, graphics, and customization using C# programming make Unity a comprehensive platform for developing professional-level, rich experiences. With this book, you'll be able to build impressive Unity projects in a step-by-step manner and apply your knowledge of Unity concepts to create a real-world game. Complete with hands-on tutorials and projects, this easy-to-follow guide will show you how to develop your first complete game using a variety of Unity tools. As you make progress, you'll learn how to make the most of the Unity Editor and create scripts using the C# programming language. This Unity game development book will then take you through integrating graphics, sound, and animations and manipulating physics to create impressive mechanics for your games. You'll also learn how to code a simple AI agent to challenge the user and use profiling tools to ensure that the code runs in a performant way. Finally,

you'll get to grips with Unity's AR Foundation for creating AR experiences for 3D apps and games. By the end of this book, you'll have developed a complete game and will have built a solid foundation using Unity's tooling ecosystem to develop game projects of any scale. What you will learn Write scripts for customizing various aspects of a game, such as physics, gameplay, and UI Program rich shaders and effects using Unity's new Shader Graph and Universal Render Pipeline Implement postprocessing to increase graphics quality with full-screen effects Create rich particle systems for your Unity games from scratch using VFX Graph and Shuriken Add animations to your game using the Animator, Cinemachine, and Timeline Implement game artificial intelligence (AI) to control character behavior Detect and fix optimization issues using profilers and batching Who this book is for This book is for game developers looking to migrate to the Unity game engine. If you are a developer with some exposure to Unity, this book will help you explore its latest features. Prior experience with C# programming is required to get the most out of the book.

Beginning 3D Game Development with Unity 4 is perfect for those who would like to come to grips with programming Unity. You may be an artist who has learned 3D tools such as 3ds Max, Maya, or Cinema 4D, or you may come from 2D tools such as Photoshop and Illustrator. On the other hand, you may just want to familiarize yourself with programming games and the latest ideas in game production. This book introduces key game production concepts in an artist-friendly way, and rapidly teaches the basic scripting skills you'll need with Unity. It goes on to show how you, as an independent game artist, can create interactive games, ideal in scope for today's casual and mobile markets, while also giving you a firm foundation in game logic and design. The first part of the book explains the logic involved in game interaction, and soon has you creating game assets through simple examples that you can build upon and gradually expand. In the second part, you'll build the foundations of a point-and-click style first-person adventure game—including reusable state management scripts, dialogue trees for character interaction, load/save functionality, a robust inventory system, and a bonus feature: a dynamically configured maze and mini-map. With the help of the provided 2D and 3D content, you'll learn to evaluate and deal with challenges in bite-sized pieces as the project progresses, gaining valuable problem-solving skills in interactive design. By the end of the book, you will be able to actively use the Unity 3D game engine, having learned the necessary workflows to utilize your own assets. You will also have an assortment of reusable scripts and art assets with which to build future games. What you'll learn How to build interactive games that work on a variety of platforms Take the tour around Unity user interface fundamentals, scripting and more Create a test environment and gain control over functionality, cursor control, action objects, state management, object metadata, message text and more What is inventory logic and how to manage it How to handle 3D object visibility, effects and other special cases How to handle variety of menus and levels in your games development How to handle characters, scrollers, and more How to create or integrate a story/walkthrough How to use the new Mecanim animation Who this book is for Students or artists familiar with tools such as 3ds Max or Maya who want to create games for mobile platforms, computers, or consoles, but with little or no experience in scripting or the logic behind games development. Table of Contents 01. Introduction to Game Development 02. Unity UI basics 03. Introduction to Scripting 04. Terrain Generation and Environment 05. Exploring Navigation 06. Cursor Control and Interaction 07. Importing Assets 08. Action Objects 09. Managing State 10. Exploring Transitions 11. Physics and Special Effects 12. Message Text and HUD 13. Inventory Logic 14. Managing Inventory 15. Dialogue Trees 16. Mecanim 17. Game Environment 18. Setting up the Game 19. Menus and Levels

Master realistic animations and graphics, particle systems, game AI and physics, sprites and VR development with Unity 2017 About This Book Create professional grade games with realistic animation and graphics, particle systems and game physics with Unity 2017 Unleash the power of C# scripting to create intelligent game AI and professional grade game workflows. Create immersive VR games using the latest Unity 2017 VR SDK. Who This Book Is For If you are a Unity developer who now wants to develop and deploy interesting games by leveraging the new features of Unity 2017, then this is the book for you. Basic knowledge of C# programming is assumed. What You Will Learn Explore hands-on tasks and real-world scenarios to make a Unity horror adventure game Create enemy characters that act intelligently and make reasoned decisions Use data files to save and restore game data in a way that is platform-agnostic Get started with VR development Use navigation meshes, occlusion culling, and Profiler tools Work confidently with GameObjects, rotations, and transformations Understand specific gameplay features such as AI enemies, inventory systems, and level design In Detail Do you want to make the leap from being an everyday Unity developer to being a pro game developer? Then look no further! This book is your one-stop solution to creating mesmerizing games with lifelike features and amazing gameplay. This book focuses in some detail on a practical project with Unity, building a first-person game with many features. You'll delve into the architecture of a Unity game, creating expansive worlds, interesting render effects, and other features to make your games special. You will create individual game components, use efficient animation techniques, and implement collision and physics effectively. Specifically, we'll explore optimal techniques for importing game assets, such as meshes and textures; tips and tricks for effective level design; how to animate and script NPCs; how to configure and deploy to mobile devices; how to prepare for VR development; how to work with version control; and more. By the end of this book, you'll have developed sufficient competency in Unity development to produce fun games with confidence. Style and approach This book takes an easy-to-follow, step-by-step tutorial approach. You will create an advanced level Unity game with an emphasis on leveraging advanced Unity 2017 features while developing the game in its entirety.

The art of programming mechanics -- Real world mechanics -- Animation mechanics -- Game rules and mechanics -- Character mechanics -- Player mechanics -- Environmental mechanics -- Mechanics for external forces.

This book follows an informal, demystifying approach to the world of game development with the Unity game engine. With no prior knowledge of game development or 3D required, you will learn from scratch, taking each concept at a time working up to a full 3D mini-game. You'll learn scripting with JavaScript and master the Unity development environment with easy to follow stepwise tasks. The printed version of the book is in black and white, but a full color version of the images is available for download here. The eBook version, available from Packt, is in full color. If you're a designer or animator who wishes to take their first steps into game development, or if you've simply spent many hours sitting in front of video games, with ideas bubbling away in the back of your mind, Unity and this book should be your starting point. No prior knowledge of game production is required, inviting you to simply bring with you a passion for making great games.

Newly Edited and Updated Version (Third Edition) for Unity 2019 Learn C# with Unity, and create a full FPS game without the headaches Without this book, most people spend too long trying to learn C# with Unity the hard way. This book is the only one that will get you to learn Unity fast without wasting so much time. It includes twelve chapters that painlessly teach you the necessary skills to create an FPS game and to learn intermediate C# and Unity techniques. What you will learn After completing this book, you will be able to: - Use Unity's built-in methods. - Use Rigidbody physics to propel airborne objects. - Use a Finite State Machine to create intelligent NPCs. - Manage 3D animations for the NPCs. - Create NPCs who can chase the player. - Create and manage weapons and ammunition for the player. - Create a 2D scrolling shooter. - Create a card-guessing game. - Create a 2D puzzle game. Content and structure of this book The content of the books is as follows: - In Chapter 1, you will learn key C# programming concepts such as variables, variable types, polymorphism, or constructors. - In Chapter 2, you will code and compile your first script in C#. - In Chapter 3, you will create a simple 3D game where the user has to reach the end of the level by avoiding projectiles from intelligent robots. - In Chapter 4, you will create a gun and a grenade launcher that the player can use to defeat enemies. - In Chapter 5, you will start to use Mecanim and NavMesh navigation to control an animated character that detects,

follows, or attacks the player. - In Chapter 6, you will combine the skills that you have acquired in the previous chapters to create a fully functional level where the player needs to escape a level full of armed NPCs. You will also learn how to generate a game level dynamically from your code. - In Chapter 7, you will create a simple 2D scrolling shooter. - In Chapter 8, you will improve your game by adding explosions and a scrolling background. - In Chapter 9, you will add intelligent spaceships that attack the player. - In Chapter 10, you will include a shield to the player's spaceship, along with other interesting features (e.g., sound FX, a scoring system, etc). - In Chapter 11, you will create a card-guessing game. - In Chapter 12, you will create a 2D puzzle game. - Chapter 13 summarizes the topics covered in the book. If you want to create FPS games, 2D Shooters, Card Games and Puzzles with Unity using a tried-and-tested method: download this book now!

In *Pro Unity Game Development with C#*, Alan Thorn, author of *Learn Unity for 2D Game Development* and experienced game developer, takes you through the complete C# workflow for developing a cross-platform first person shooter in Unity. C# is the most popular programming language for experienced Unity developers, helping them get the most out of what Unity offers. If you're already using C# with Unity and you want to take the next step in becoming an experienced, professional-level game developer, this is the book you need. Whether you are a student, an indie developer, or a season game dev professional, you'll find helpful C# examples of how to build intelligent enemies, create event systems and GUIs, develop save-game states, and lots more. You'll understand and apply powerful programming concepts such as singleton classes, component based design, resolution independence, delegates, and event driven programming. By the end of the book, you will have a complete first person shooter game up and running with Unity. Plus you'll be equipped with the know-how and techniques needed to deploy your own professional-grade C# games. If you already know a bit of C# and you want to improve your Unity skills, this is just the right book for you.

?Designed for beginners with no knowledge or experience in game development or programming, this book teaches the essentials of the Unity game engine, the C# programming language, and the art of object-oriented programming. New concepts are not only explained, but thoroughly demonstrated. Starting with an introduction to Unity, you'll learn about scenes, GameObjects, prefabs, components, and how to use the various windows to interact with the engine. You'll then dive into the fundamentals of programming by reviewing syntax rules, formatting, methods, variables, objects and types, classes, and inheritance, all while getting your hands dirty writing and testing code yourself. Later, the book explains how to expose script data in the Inspector and the basics of Unity's serialization system. This carefully crafted work guides you through the planning and development of bare bones, simple game projects designed to exercise programming concepts while keeping less relevant interruptions out of the way, allowing you to focus on the implementation of game mechanics first and foremost. Through these example projects, the book teaches input handling, rigidbodies, colliders, cameras, prefab instantiation, scene loading, user interface design and coding, and more. By the end, you'll have built a solid foundation in programming that will pave your way forward in understanding core C# syntax and fundamentals of object-oriented programming—not just what to type but why it's typed and what it's really doing. *Game Programming with Unity and C#* will send you on your way to becoming comfortable with the Unity game engine and its documentation and how to independently seek further information on yet-untouched concepts and challenges. **What You'll Learn** Understand the fundamentals of object-oriented computer programming, including topics specifically relevant for games. Leverage beginner-to-intermediate-level skills of the C# programming language and its syntax. Review all major component types of the Unity game engine: colliders and rigidbodies, lights, cameras, scripts, etc. Use essential knowledge of the Unity game engine and its features to balance gameplay mechanics for making interesting experiences. **Who This Book Is For** Beginners who have no prior experience in programming or game development who would like to learn with a solid foundation that prepares them to further develop their skills.

Master everything you need to build a 2D game using Unity 5 by developing a complete RPG game framework! **About This Book** Explore the new features of Unity 5 and recognize obsolete code and elements. Develop and build a complete 2D retro RPG with a conversation system, inventory, random map battles, full game menus, and sound. This book demonstrates how to use the new Unity UI system effectively through detailed C# scripts with full explanations. **Who This Book Is For** This book is for anyone looking to get started developing 2D games with Unity 5. If you're already accomplished in Unity 2D and wish to expand or supplement your current Unity knowledge, or are working in 2D in Unity 4 and looking to upgrade Unity 5, this book is for you. A basic understanding of programming logic is needed to begin learning with this book, but intermediate and advanced programming topics are explained thoroughly so that coders of any level can follow along. Previous programming experience in C# is not required. **What You Will Learn** Create a 2D game in Unity 5 by developing a complete retro 2D RPG framework. Effectively manipulate and utilize 2D sprites. Create 2D sprite animations and trigger them effectively with code. Write beginning to advanced-level C# code using MonoDevelop. Implement the new UI system effectively and beautifully. Use state machines to trigger events within your game. **In Detail** The Unity engine has revolutionized the gaming industry, by making it easier than ever for indie game developers to create quality games on a budget. Hobbyists and students can use this powerful engine to build 2D and 3D games, to play, distribute, and even sell for free! This book will help you master the 2D features available in Unity 5, by walking you through the development of a 2D RPG framework. With fully explained and detailed C# scripts, this book will show you how to create and program animations, a NPC conversation system, an inventory system, random RPG map battles, and full game menus. After your core game is complete, you'll learn how to add finishing touches like sound and music, monetization strategies, and splash screens. You'll then be guided through the process of publishing and sharing your game on multiple platforms. After completing this book, you will have the necessary knowledge to develop, build, and deploy 2D games of any genre! **Style and approach** This book takes a step-by-step practical tutorial style approach. The steps are accompanied by examples, and all the intermediate steps will be clearly explained. The focus of this book will obviously be on the advanced topics so that the game looks and performs efficiently.

In just 24 lessons of one hour or less, *Sams Teach Yourself Unity Game Development in 24 Hours* will help you master the Unity 5 game engine at the heart of *Hearthstone: Heroes of Warcraft*, *Kerbal Space Program*, and many other sizzling-hot games! This book's straightforward, step-by-step approach teaches you everything from the absolute basics through sophisticated game physics, animation, and mobile device deployment techniques. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success. Step-by-step instructions carefully walk you through the most common Unity game development tasks. Practical, hands-on examples show you how to apply what you learn. Quizzes and exercises help you test your knowledge and stretch your skills. Notes and tips point out shortcuts and solutions.

This book teaches beginners and aspiring game developers how to develop 2D games with Unity. Thousands of commercial games have been built with Unity. The reader will learn the complete process of 2D game development, step by step. The theory behind each step is fully explained. This book contains numerous color illustrations and access to all source code and companion videos. Key Features: Fully detailed game projects from scratch. Beginners can do the steps and create games right away. No coding experience is necessary. Numerous examples take a raw beginner toward professional coding proficiency in C# and Unity. Includes a thorough introduction to Unity 2020, including 2D game development, prefabs, cameras, animation, character controllers, lighting, and sound. Includes a step-by-step introduction to Unity 2019.3. Extensive coverage of GIMP, Audacity, and MuseScore for the creation of 2D graphics, sound effects, and music. All required software is free to use for any purpose including commercial applications and games. Franz Lanzinger is the owner and chief game developer of Lanzinger Studio, an independent game development and music studio in Sunnyvale, California. He started his career in game programming in 1982 at Atari Games, Inc., where he designed and programmed the classic arcade game Crystal Castles. In 1989, he joined Tengen, where he was a programmer and designer for Ms. Pac-Man and Toobin' on the NES. He co-founded Bitmasters, where he designed and coded games including Rampart and Championship Pool for the NES and SNES, and NCAA Final Four Basketball for the SNES and Sega Genesis. In 1996, he founded Actual Entertainment, publisher and developer of the Gubble video game series. He has a B.Sc. in mathematics from the University of Notre Dame and attended graduate school in mathematics at the University of California at Berkeley. He is a former world record holder on Centipede and Burgertime. He is a professional author, game developer, accompanist, and piano teacher. He is currently working on remaking the original Gubble game in Unity and Blender.

Develop your first interactive 2D platformer game by learning the fundamentals of C#

About This Book- Get to grips with the fundamentals of scripting in C# with Unity- Create an awesome, 2D platformer game from scratch using the principles of object-oriented programming and coding in C#- This is a step-by-step guide to learn the fundamentals of C# scripting to develop GameObjects and master the basics of the new UI system in Unity

Who This Book Is For

The book is targeted at beginner level Unity developers with no programming experience. If you are a Unity developer and you wish to learn how to write C# scripts and code by creating games, then this book is for you.

What You Will Learn-

- Understand the fundamentals of variables, methods, and code syntax in C#
- Get to know about techniques to turn your game idea into working project
- Use loops and collections efficiently in Unity to reduce the amount of code
- Develop a game using the object-oriented programming principles
- Generate infinite levels for your game
- Create and code a good-looking functional UI system for your game
- Publish and share your game with users

In Detail

Unity is a cross-platform game engine that is used to develop 2D and 3D video games. Unity 5 is the latest version, released in March 2015, and adds a real-time global illumination to the games, and its powerful new features help to improve a game's efficiency.

This book will get you started with programming behaviors in C# so you can create 2D games in Unity. You will begin by installing Unity and learning about its features, followed by creating a C# script. We will then deal with topics such as unity scripting for you to understand how codes work so you can create and use C# variables and methods. Moving forward, you will find out how to create, store, and retrieve data from collection of objects. You will also develop an understanding of loops and their use, and you'll perform object-oriented programming. This will help you to turn your idea into a ready-to-code project and set up a Unity project for production. Finally, you will discover how to create the GameManager class to manage the game play loop, generate game levels, and develop a simple UI for the game.

By the end of this book, you will have mastered the art of applying C# in Unity.

Style and approach

This is a step-by-step guide to developing a game from scratch by applying the fundamentals of C# and Unity scripting.

Develop your own games with Unity 2D/3D Game Kit and use it for your presentations, kids education, level design, game design, proofs of concept, or even just for fun! Key Features

- Build your first ever video game using Unity 2D/3D Game kit
- Learn how to create game levels, adding props, giving behaviours to objects and working on gameplay
- Step by step instructions on creating your own AI enemy and interacting with it

Book Description

Hands-On Game Development without Coding is the first Visual Scripting book in the market. It was tailor made for a non programming audience who are wondering how a videogame is made. After reading this book you will be able to develop your own 2d and 3d videogames and use it on your presentations, to speed up your level design deliveries, test your game design ideas, work on your proofs of concept, or even doing it just for fun. The best thing about Hands-On Game Development without Coding is that you don't need any previous knowledge to read and understand the process of creating a videogame. It is our main focus to provide you with the opportunity to create a videogame as easy and fast as possible. Once you go through the book, you will be able to create player input interaction, levels, object behaviours, enemy AI, creating your own UI and finally giving life to your game by building it. It's Alive!

What you will learn

- Understanding the Interface and kit flow.
- Comprehend the virtual space and its rules.
- Learning the behaviours and roles each component must have in order to make a videogame.
- Learn about videogame development
- Creating a videogame without the need of learning any programming language
- Create your own gameplay HUD to display player and Enemy information

Who this book is for

This book is for anyone who is interested in becoming a game developer but do not possess any coding experience or programming skills. All you need is a computer and basic software interface knowledge.

Discover how to use the Unity game engine to its full potential for both 3D and 2D game development—from the basics of scripting to useful tricks in gameplay, behavior, and animation. With this problem-solving cookbook, you'll get started in two ways: First, you'll learn about the Unity game engine through brief recipes that teach specific features of the software and scripting systems. Second, you'll apply a collection of snippets to address common gameplay scenarios, such as properly keeping score. Using our cookbook format, we pinpoint the problem, set out the solution, and discuss how to solve your problem in the best and most straightforward way possible. This book is ideal for beginning to intermediate Unity developers. You'll find solutions for: 2D and 3D graphics Math, physics, and character control Animation and movement Behavior and AI Sound and music Input and gameplay Scripting and user interface

If you have C# knowledge but now want to become truly confident in creating fully functional 2D RPG games with Unity, then this book will show you everything you need to know.

The Unity engine game development tool is a multi-platform engine and editor rolled into one. It is an ideal development tool for independent developers and students, and many pro studios turn to it for fast prototyping. Unity allows developers to create a single game and release it on many platforms including Android, iOS, and the web. This completely updated edition of GAME DEVELOPMENT WITH UNITY is a tutorial-style guide that provides a complete overview of the Unity editor along with step-by-step projects covering every basic functional aspect, from asset importing to publishing. Each chapter includes tutorials and small assignments geared toward making a larger game. You will learn the

basics of design and level theory and prototyping concepts in the virtual world. You will also learn how to polish and publish your finished game. A companion website features software, sample levels, source code and more. Start learning Unity today with GAME DEVELOPMENT WITH UNITY, SECOND EDITION.

Explore every nook and cranny of Unity 5 to turn your imaginations into reality About This Book* Demystify the C# programming language in Unity 5.x.* Unleash the power of Unity to create a wide variety of projects in numerous genres and formats.* Master the art of optimization for Unity 5.x applications with tips and techniques that will further enhance your game. Who This Book Is For Beginner level Unity developers who do not have much programming experience. What You Will Learn* Master the art of applying C# in Unity. Get to know about techniques to turn your game idea into working project.* Use loops and collections efficiently in Unity to reduce the amount of code.* Create and code a good-looking functional UI system for your game.* Find out how to create exciting and interactive games using GUIs.* Work with different animation assets and components to enhance your game further.* Personalize your game by learning how to use Unity's advanced animation system.* Create, visualize, and edit animated creatures to add to your already amazing game.* Familiarize yourself with the tools and practices of game development Discover how to create the Game Manager class to, generate game levels, and develop UI for the game.* Use the Unity Profiler to find bottlenecks anywhere in your application, and discover how to resolve them.* Implement best practices for C# scripting to avoid common mistakes In Detail Unity is a cross-platform game engine that is used to develop 2D and 3D video games. Unity 5 is the latest version, and adds a real-time global illumination to the games; and its powerful new features help to improve a game's efficiency. If you love games and want to learn how to make them but have no idea where to begin, then this course is built just for you. This learning path is divided into three modules which will take you in this incredible journey of creating games. The course begins with getting you started with programming behaviors in C# so that you can create 2D games in Unity. You will begin by installing Unity and learning about its features. You will learn how to perform object-oriented programming and discover how to manage the game play loop, generate game levels, and develop a simple UI for the game. By the time this module comes to a close, you will have mastered the art of applying C# in Unity. It is now time we put into use what we learned in the previous module into reality as we move onto the second module. Here, we will be building 7-8 action-packed games of different difficulty levels. Each project will focus on key Unity features as well as game strategy development. This module will mark your transformation from an application developer to a full-fledged Unity game developer. Who wouldn't love a game that is fully perfect, functional, and without any glitches? The third module deals with just that by teaching how to enhance your game by learning game optimization skills. Here, you'll gain an understanding of possible solutions to any problem and how to implement them. You will then learn everything you need to know about where performance bottlenecks can be found, why they happen, and how to work around them. With this massive wealth of knowledge, at the end of this learning path, you will be able to leverage an array of game development techniques to create your own basic games while resolving any issues that you encounter. Style and approach This learning path should be treated as the complete package necessary for building games. It is a step-by-step guide to develop a game from scratch by applying the fundamentals of C# and Unity scripting, with a reference guide in the end to solve all your gaming problems.

This fifth edition of the popular C# guide helps you learn the building blocks of C# language, right from variables to classes and exception handling. After getting to grips with the basics of C# programming, it takes you through the world of Unity game development and how you can apply C# knowledge using game development examples.

Have you ever wanted to make a video game, but didn't know where to start? 2D Unity is an approachable guide to making your own games using Unity, the powerful, free-to-use development platform. 2D Unity contains hands-on projects that get you started making games from the ground-up. Unity's complex interface can be intimidating at first, but each chapter includes patient, step-by-step instructions that walk you through its core functionality like importing images, organizing project files, and using its visual Scene editor to set up all the parts of your game. Along the way, you'll draw pixel art, design tile-based levels, and learn introductory game programming in C#. You'll also learn how to: Animate sprites for player characters, enemies, and obstacles Spawn objects and use Unity's physics engine to drop them Show particle effects when parts of your game environment get destroyed Program a level builder that turns a block of text into a complete 2D level Design graphical user interfaces, including your game's main menu Create autonomous enemies like evil shopping carts of doom You'll start out making short arcade-like games like a colorful brick buster and a top-down tile-based game to learn the basics, and you'll build your way up to making a classic 2D platforming game, a la Donkey Kong. By the end, you'll have the skills you need in order to make the 2D games you've always wanted to play.

Follow a walkthrough of the Unity Engine and learn important 2D-centric lessons in scripting, working with image assets, animations, cameras, collision detection, and state management. In addition to the fundamentals, you'll learn best practices, helpful game-architectural patterns, and how to customize Unity to suit your needs, all in the context of building a working 2D game. While many books focus on 3D game creation with Unity, the easiest market for an independent developer to thrive in is 2D games. 2D games are generally cheaper to produce, more feasible for small teams, and more likely to be completed. If you live and breathe games and want to create them then 2D games are a great place to start. By focusing exclusively on 2D games and Unity's ever-expanding 2D workflow, this book gives aspiring independent game developers the tools they need to thrive. Various real-world examples of independent games are used to teach fundamental concepts of developing 2D games in Unity, using the very latest tools in Unity's updated 2D workflow. New all-digital channels for distribution, such as Nintendo eShop, Xbox Live Marketplace, the Playstation Store, the App Store, Google Play, itch.io, Steam, and GOG.com have made it easier than ever to discover, buy, and sell games. The golden age of independent gaming is upon us, and there has never been a better time to get creative, roll up your sleeves, and build that game you've always dreamed about. Developing 2D Games with Unity can show you the way. What You'll Learn Delve deeply into useful 2D topics, such as sprites, tile slicing, and the brand new Tilemap feature. Build a working 2D RPG-style game as you learn. Construct a flexible and extensible game architecture using Unity-specific tools like Scriptable Objects, Cinemachine, and Prefabs. Take advantage of the streamlined 2D workflow provided by the Unity environment. Deploy games to desktop Who This Book Is For Hobbyists with some knowledge of programming, as well as seasoned programmers interested in learning to make games independent of a major studio.

Do you want to develop games like the pros? Creating your first game can be a confusing process, especially if you've got no idea where to start. This guide will show you most of the basics of game development, no matter which game engine you're planning to use. There's a ton of information available that covers every aspect of game development but it's hard to find out where to start. Let this guide show you the very first steps into game development. Unity (2D/3D) is one of the most used game engines by both indie developers and triple-A game studios. It can be rather hard to get into. Unity uses C# for programming, a solid language that is used across various platforms. A good place to get started with Unity is on their official website. The guide in this book will help you to learn everything you need to know to start making your games (and also to finish them of course).

In the past, not being able to program meant not being able to make video games. Now if you can draw a flow-chart you can use powerful State Machine technology to create your dream game! No-Code Video Game Development using Unity and Playmaker will teach you how to substitute flow-charts for code. As a complete course, it uses a project-based approach. The FPS project comes with over a hundred dollars worth of free #gamedev DLC: Unity Packages, Playmaker Templates, Character Models, Animations, Materials, and more! You'll also learn game design documentation and theory, Mecanim, Particle Systems, and UI. By the time you're done you'll have gained the skills needed to create your own dream game, all without writing any code!

In just 24 sessions of one hour or less, Sams Teach Yourself Unity Game Development in 24 Hours will help you master the Unity game engine at the heart of Hearthstone: Heroes of Warcraft, Kerbal Space Program and many other sizzling-hot games! You'll learn everything from the absolute basics through sophisticated game physics, animation, and mobile device deployment techniques. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success! Step-by-step instructions carefully walk you through the most common Unity 5 game development tasks. Quizzes and Exercises at the end of each chapter help you test your knowledge. Notes present interesting information related to the discussion. Tips offer advice or show you easier ways to perform tasks. Cautions alert you to possible problems and give you advice on how to avoid them. Learn how to... Create and work with game objects, Unity's fundamental building blocks Work efficiently with Unity's graphical asset pipeline Apply shaders and textures to any 3D object Sculpt stunning game worlds with Unity's terrain and environmental toolsets Script tasks ranging from capturing input to building complex behaviors Quickly create repeatable, reusable game objects with prefabs Implement easy, intuitive game user interfaces Create amazing effects with Unity's particle system Leverage the full power of Unity's Mecanim animation system Integrate ambient 2D/3D audio into your games Use mobile device accelerometers and multi-touch displays Modify a desktop game for mobile platforms Apply the "finishing touches" and deploy your game Traditional building blocks of a robust architecture, such as design patterns, cannot be applied in Unity without being adapted to the engine's unique way of doing things. The book reviews design patterns that are currently used by professional game programmers in indie, mobile, and AAA studios, along with examining notorious anti-patterns. Annotation Game Engines such as Unity are the power-tools behind the games we know and love. Unity is one of the most widely-used and best loved packages for game development and is used by everyone, from hobbyists to large studios, to create games and interactive experiences for the web, desktop, mobile, and console. With Unity's intuitive, easy to learn toolset and this book its never been easier to become a game developer. Taking a practical approach, this book will introduce you to the concepts of developing 3D games, before getting to grips with development in Unity itself prototyping a simple scenario, and then creating a larger game. From creating 3D worlds to scripting and creating game mechanics you will learn everything you'll need to get started with game development. This book is designed to cover a set of easy-to-follow examples, which culminate in the production of a First Person 3D game, complete with an interactive island environment. All of the concepts taught in this book are applicable to other types of game, however, by introducing common concepts of game and 3D production, you'll explore Unity to make a character interact with the game world, and build puzzles for the player to solve, in order to complete the game. At the end of the book, you will have a fully working 3D game and all the skills required to extend the game further, giving your end-user, the player, the best experience possible. Soon you will be creating your own 3D games with ease!

Develop your first interactive 2D platformer game by learning the fundamentals of C# About This Book Get to grips with the fundamentals of scripting in C# with Unity Create an awesome, 2D platformer game from scratch using the principles of object-oriented programming and coding in C# This is a step-by-step guide to learn the fundamentals of C# scripting to develop GameObjects and master the basics of the new UI system in Unity Who This Book Is For The book is targeted at beginner level Unity developers with no programming experience. If you are a Unity developer and you wish to learn how to write C# scripts and code by creating games, then this book is for you. What You Will Learn Understand the fundamentals of variables, methods, and code syntax in C# Get to know about techniques to turn your game idea into working project Use loops and collections efficiently in Unity to reduce the amount of code Develop a game using the object-oriented programming principles Generate infinite levels for your game Create and code a good-looking functional UI system for your game Publish and share your game with users In Detail Unity is a cross-platform game engine that is used to develop 2D and 3D video games. Unity 5 is the latest version, released in March 2015, and adds a real-time global illumination to the games, and its powerful new features help to improve a game's efficiency. This book will get you started with programming behaviors in C# so you can create 2D games in Unity. You will begin by installing Unity and learning about its features, followed by creating a C# script. We will then deal with topics such as unity scripting for you to understand how codes work so you can create and use C# variables and methods. Moving forward, you will find out how to create, store, and retrieve data from collection of objects. You will also develop an understanding of loops and their use, and you'll perform object-oriented programming. This will help you to turn your idea into a ready-to-code project and set up a Unity project for production. Finally, you will discover how to create the GameManager class to manage the game play loop, generate game levels, and develop a simple UI for the game. By the end of this book, you will have mastered the art of applying C# in Unity. Style and approach This is a step-by-step guide to developing a game from scratch by applying the fundamentals of C# and Unity scripting.

This second edition of C# Game Programming Cookbook for Unity 3D expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before. New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the most used systems. Improve your game's sound in a dedicated audio chapter covering topics such as audio mixers, fading, and audio ducking effects, or dissect a fully featured racing game with car physics, lap counting, artificial intelligence steering behaviors, and game management. Use this book to guide your way through all the required code and framework to build a multi-level arena blaster game. Features Focuses on programming, structure, and an industry-level, C#-based framework Extensive breakdowns of all the important classes Example projects illustrate and break down common and important Unity C# programming concepts, such as coroutines, singletons, static variables, inheritance, and scriptable objects. Three fully playable example games with source code: a 2D infinite runner, an arena blaster, and an isometric racing game The script library includes a base Game Manager, timed and proximity spawning, save profile manager, weapons control, artificial intelligence controllers (path following, target chasing and line-of-sight patrolling behaviors), user interface

Canvas management and fading, car physics controllers, and more. Code and screenshots have been updated with the latest versions of Unity. These updates will help illustrate how to create 2D games and 3D games based on the most up-to-date methods and techniques. Experienced C# programmers will discover ways to structure Unity projects for reusability and scalability. The concepts offered within the book are instrumental to mastering C# and Unity. In his game career spanning more than 20 years, Jeff W. Murray has worked with some of the world's largest brands as a Game Designer, Programmer, and Director. A Unity user for over 14 years, he now works as a consultant and freelancer between developing his own VR games and experiments with Unity.

If you want to build enticing projects with Unity, this book is for you. Readers who are familiar with the basics of how to create simple projects in Unity will have an easier time.

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